

Ruffed Grouse Drumming Survey

2003

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Abstract

Statewide ruffed grouse populations decreased 1% between 2002 and 2003, based on the number of drumming grouse heard during roadside surveys. Changes in breeding grouse populations varied by region, but the statewide mean number of drums/stop did not change significantly ($P=0.94$) from 2002 to 2003. Drummer densities on the Sandhill Wildlife Area in Wood County increased. While drummer densities on the Stone Lake Experimental Area in Oneida County decreased slightly from 2002 levels.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 112 transects throughout the state in 2003. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2003. One transect which had been accidentally left out of the original survey design was added in Waupaca county in 1999, bringing the statewide total to 118. This year marked the tenth year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they were to be run again to confirm that they indeed were still zero. Most of these "zero" routes were run again in 2000, those routes that were not run in the past two years were run this year.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR UNIX production server and summarized using the Statistical Analysis System (SAS).

Research Census Areas

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat.

Results

Statewide

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 112 survey transects in 2003. This is six less than the total number of transects (118) for the state.

Statewide, ruffed grouse populations declined in Wisconsin between 2002 and 2003 (Table 1). Populations declined within three of the four regions of the state (Fig. 1), but overall densities decreases were not significant ($P=0.94$) during 2002-2003. Transects completed in both 2002 and 2003 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 32 to 30 those that showed increases, with 46 transects unchanged. Overall breeding grouse populations changed little from 2002. It appears that current populations have leveled off in the state (Fig. 2). Wisconsin's ruffed grouse population has exhibited a downward trend for the past several years and may have bottomed out in 2003. Historic cyclic declines, however, have generally occurred in Wisconsin after declines in regions located west of our state. Since increases in those areas are starting to be apparent, it is possible that grouse numbers could increase in the spring in 2004.

Survey conditions for 2003 were very similar to those in 2002. Surveyors rated the overall conditions as "excellent" on 58% of the transects, while 53% rated the overall conditions as "excellent" in 2002. The percent of observers rating the conditions as "excellent" was still below the highest level of 68% recorded in 1998. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

Research Census Areas

Grouse numbers on both of the research census areas were mixed in 2003 (Table 2). The Sandhill Wildlife Area had an overall increase of 18% (40 birds in 2002 vs. 47 in 2003). The unhunted portion of the wildlife area (1,300 acres) increased by 7 birds in 2003 (20 vs. 27). The hunted portion of the wildlife area (2,020 acres) remained unchanged from 2002 levels, 20 birds. The Stone Lake census area had a decrease of 8% (87 birds in 2002 vs. 80 birds in 2003) in 2003. The survey technique used to measure grouse densities on both of these areas is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously.

Table 1. Ruffed Grouse drumming results 2002-2003, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2002 levels.

Region	Drums/Stop 2002 (routes run)	Drums/Stop 2003 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.87 (27)	0.86 (24)	-1%	9	9	6
Northern	1.41 (40)	1.32 (43)	-6%	16	14	10
Southeast	0.07 (30)	0.05 (28)	-29%	1	0	27
Southwest	0.48 (16)	0.52 (17)	8%	6	7	3
Statewide	0.79 (113)	0.78 (112)	-1%	32	30	46

Table 2. Drummer densities on the DNR research census areas, 2002-2003.

Area	No. of Drummers (No./100A)	
	2002	2003
Sandhill Hunted (2,020 Acres)	20 (1.0)	20 (1.0)
Sandhill Unhunted (1,300 Acres)	20 (1.5)	27 (2.1)
Stone Lake Exp. Area (3,310 Acres)	87 (2.6)	80 (2.4)

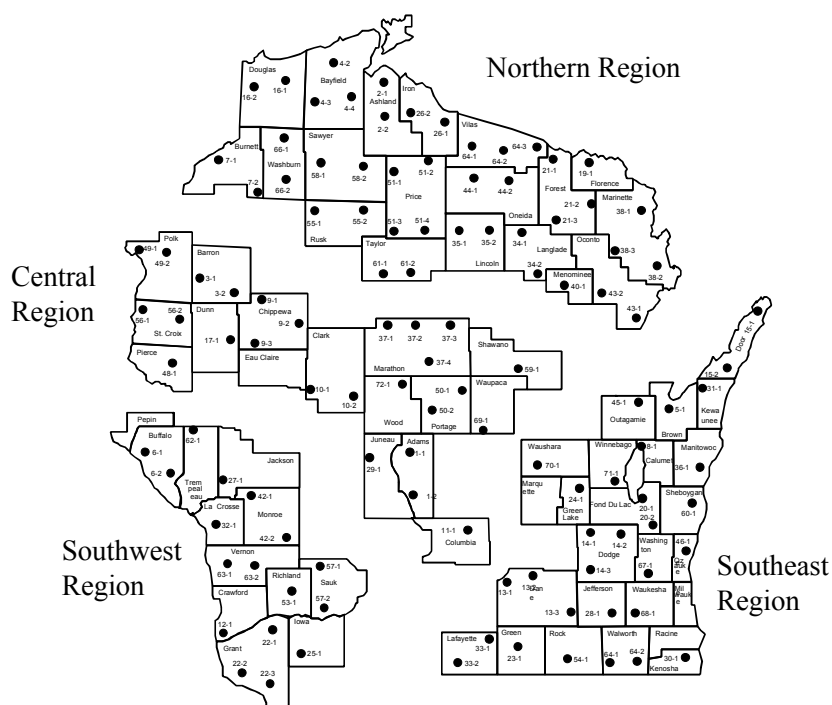


Figure 1. Ruffed grouse drumming regions with transect starting points.

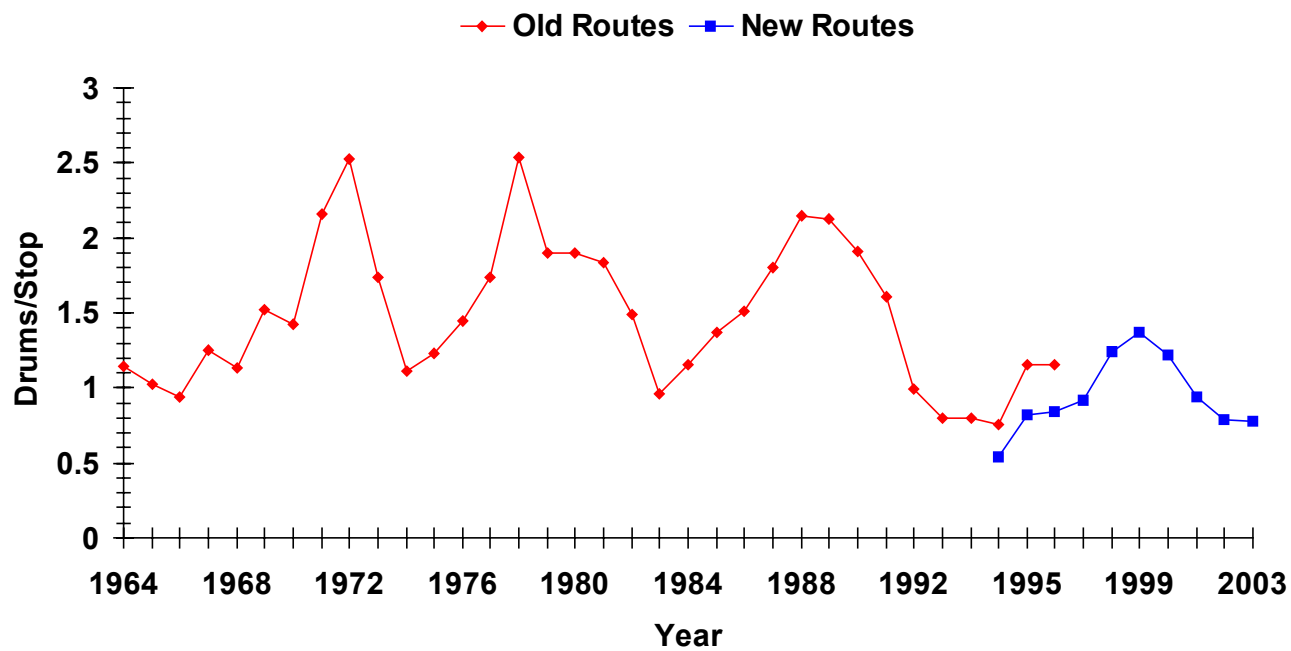


Figure 2. Mean number of drums/stop on ruffed grouse drumming routes, 1964-2003.